



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,491	05/27/2005	Simon Reza Saunders	234012	8664

23548 7590 04/05/2007
LEYDIG VOIT & MAYER, LTD
700 THIRTEENTH ST. NW
SUITE 300
WASHINGTON, DC 20005-3960

EXAMINER

YOUNG, JANELLE N

ART UNIT PAPER NUMBER

2618

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/524,491

Applicant(s)

SAUNDERS ET AL.

Examiner

Janelle N. Young

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Independent claims 1 and 6 have been amended herein to more clearly define and describe the invention. More specifically, claim 1 has been amended to include the features that: "said antenna elements are arranged in groups of at least two elements" and "each antenna element of the same group being subjected to the same preset delay". The applicants respectfully submit that US 5926503 does not teach, suggest, or appreciate these features.

Kelton et al. teaches antenna elements producing the strongest antenna signals are assigned to different groups wherein "each antenna element of the same group being subjected to the same preset delay". The antenna elements 130 and 132 of Kelton et al. are considered to be two groups of one antenna element.

What Kelton et al. does not explicitly teach is the reference does not teach or even suggest the feature of "said antenna elements are arranged in groups of at least two antenna elements".

However, LeBlanc et al. teaches antenna elements that are considered to be a single group of two antennas wherein said antenna elements are arranged in groups of at least two antenna elements (Fig. 3, 5, 6, 9, & 10; Col. 12, lines 7-38; Col. 13, lines 1-

Art Unit: 2618

12; Col. 21, line 37-Col. 22, line 11; Col. 34, lines 4-18; Col. 34, line 54-Col. 35, line 8; and Col. 38, line 55-Col. 39, line 67 of LeBlanc et al.).

It would have been obvious to one of ordinary skill of the art at the time the invention was made to incorporate a DS-CDMA receiver and forward link diversity method of Kelton et al., in the location system for a plurality of commercial wireless telecommunication infrastructure, as taught by LeBlanc et al., because LeBlanc et al. already teaches data receivers being capable of tracking & demodulating multipath signals from a forward CDMA channel (Col. 21, line 37-Col. 22, line 11 of LeBlanc et al.).

The motivation of this combination would be the effect of the CDMA spread spectrum, namely the exploitation of radio frequency spectral efficiency and isolation by (a) monitoring voice activity, (b) provision of advance variable-rate modems and error correcting signal coding, (d) inherent resistance to fading, (e) enhanced privacy, and (f) multiple RAKE digital data receivers and searcher receivers for correlation of signal multipath (Col. 13, lines 1-12 of LeBlanc et al. in correspondence to Col. 3, lines 44-55 of Kelton et al.).

Response to Amendment

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2618

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7 & 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelton et al. (US Patent 5926503) and further in view of LeBlanc et al. (US Patent 6236365).

As for claim 1, Kelton et al. teaches a wireless communication system including a mobile station and a base station having a distributed antenna arrangement comprising a plurality of antenna elements for producing antenna signals across an area of coverage of the distributed antenna arrangement, wherein said antenna elements producing the strongest antenna signals at the mobile station, within at least part of said area of coverage, are assigned to different said groups, said antenna signals produced by the different groups of antenna elements are subjected to preset relative delays, each antenna element of the same group being subjected to the same present delay, enabling the antenna signals to be combined substantially coherently in the mobile station (Abstract; Col. 3, lines 1-8; Col. 4, line 66-Col. 5, line 3; Col. 5, lines 24-29; and Col. 9, lines 12-20).

What Kelton et al. does not explicitly teach is the reference does not teach or even suggest the feature of "said antenna elements are arranged in groups of at least two antenna elements".

However, LeBlanc et al. teaches antenna elements that are considered to be a single group of two antennas wherein said antenna elements are arranged in groups of at least two antenna elements (Fig. 3, 5, 6, 9, & 10; Col. 12, lines 7-38; Col. 13, lines 1-

Art Unit: 2618

12; Col. 21, line 37-Col. 22, line 11; Col. 34, lines 4-18; Col. 34, line 54-Col. 35, line 8; and Col. 38, line 55-Col. 39, line 67 of LeBlanc et al.).

It would have been obvious to one of ordinary skill of the art at the time the invention was made to incorporate a DS-CDMA receiver and forward link diversity method of Kelton et al., in the location system for a plurality of commercial wireless telecommunication infrastructure, as taught by LeBlanc et al., because LeBlanc et al. already teaches data receivers being capable of tracking & demodulating multipath signals from a forward CDMA channel (Col. 21, line 37-Col. 22, line 11 of LeBlanc et al.).

The motivation of this combination would be the effect of the CDMA spread spectrum, namely the exploitation of radio frequency spectral efficiency and isolation by (a) monitoring voice activity, (b) provision of advance variable-rate modems and error correcting signal coding, (d) inherent resistance to fading, (e) enhanced privacy, and (f) multiple RAKE digital data receivers and searcher receivers for correlation of signal multipath (Col. 13, lines 1-12 of LeBlanc et al. in correspondence to Col. 3, lines 44-55 of Kelton et al.).

As for claims 2-3, Kelton et al. teaches a wireless communication system including a mobile station and a base station having a distributed antenna arrangement wherein said mobile station includes a RAKE receiver having N RAKE fingers, where N is an integer equal to the number of said groups and/or N is 3 (Abstract; Col. 4, lines 6-14; and Col. 4, line 66-Co. 5, line 17).

As for claims 4 & 10-11, Kelton et al. teaches a wireless communication system including a mobile station and a base station having a distributed antenna arrangement wherein antenna signals produced by the antenna elements of one of said groups are not subjected to any preset delay (Col. 9, line 62-Col. 10, line 4).

As for claims 5 & 12-14, Kelton et al. teaches a wireless communication system including a mobile station and a base station having a distributed antenna arrangement including at least one delay line, wherein the or each delay line subjects antenna signals produced by all the antenna elements of a respective group to the same preset delay (Col. 9, line 56-Col. 10, line 4).

Regarding claim 6, see explanation as set forth regarding claim 1 (system claim) because the claimed method for a wireless communication system including a mobile station and a base station having a distributed antenna arrangement would perform the system steps.

Regarding claim 7, see explanation as set forth regarding claim 4 (system claim) because the claimed method for a wireless communication system including a mobile station and a base station having a distributed antenna arrangement would perform the system steps.

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2618

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle N. Young whose telephone number is (571) 272-2836. The examiner can normally be reached on Monday through Friday: 8:30 am through 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2618

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JNY
March 28, 2007


NAY MAUNG
SUPERVISORY PATENT EXAMINER